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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/738,442  | 12/17/2003  | James E. Winzeler    | 01-827              | 8230             |
| 719   | 7590        | 09/26/2005           | EXAMINER            |                  |
| CATERPILLAR INC.<br>100 N.E. ADAMS STREET<br>PATENT DEPT.<br>PEORIA, IL 616296490 |             |                      | HO, HA DINH         |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 3681                |                  |

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/738,442             | WINZELER, JAMES E.  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | Ha D. Ho               | 3681                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 18 July 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) 7 and 16 is/are allowed.  
 6) Claim(s) 1-6,8-15,17 and 18 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/17/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

1. This is the first Office Action on the merits of Application No. 10/738,442 filed on 12/17/03. Claims 1-18 are currently pending.

### *Election/Restrictions*

2. Applicant's election of Species 1, Fig. 1, in the reply filed on 7/18/05 is acknowledged.

Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. No claim is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 7/18/05.

### *Claim Objections*

4. Claims 3, 5, 6, 7, 12, 14, 15 and 16 are objected to because of the following informalities:

- Claim 3, line 2, "assemblies" should be changed to --trains--.
- Claim 5, line 2, "set" should be changed to --assembly--.
- Claim 6, line 4, "include sun gears" should be changed to --includes a sun gear--.
- Claim 7, line 2, "each include a sun gear" should be changed to --includes said sun gear--.
- Claim 12, line 2, "assemblies" should be changed to --trains--.

- Claim 12, line 3, "said" should be changed to --a--.
- Claim 14, line 1, "set" should be changed to --assembly--.
- Claim 15, line 4, "include sun gears" should be changed to --includes a sun gear--.
- Claim 16, lines 2-3, "each include a sun gear" should be changed to --includes said sun gear--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 4-6, 8, 10, 14-15 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Fisher (US 3,147,635).

Regarding claims 1 and 10, Fisher teaches a final drive assembly (see Fig. 2) for transmitting torque between an input 10 and an output 12, said final drive comprising: a compound gear assembly including at least three planetary gear trains (20, 22, 24) and being in driving engagement with the input, each planetary gear train of said at least three planetary gear trains being adapted to coaxially and drivingly engage the output, wherein torque generated by the input is distributed to the output by said each of said planetary gear trains.

Regarding claim 4, wherein the input includes an internal combustion engine (col. 1, line 72).

Regarding claims 5 and 14, wherein the compound gear assembly includes an outboard gear train 24 drivingly engaged by the input 10.

Regarding claims 6 and 15, wherein the compound gear assembly comprises first 24, second 20 and third 22 planetary gear trains which each includes a sun gear (54, 34, 38), the sun gears (34, 38) of the second and third planetary gear trains are coaxially positioned.

Regarding claims 8 and 17, wherein said first planetary gear train 24 is adapted to be driven by the input and said third planetary gear train 22 includes a portion 36 thereof adapted to be grounded through a reaction member 46.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2, 3, 9, 11-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fisher (US 3,147,635) in view of Dence (US 3,115,204).

Regarding claims 2, 3, 11 and 12, Fisher teaches the output shaft 12 being connected to the wheel assembly (col. 2, line 1). Fisher does not show the planetary gear trains (20, 22, 24) being enclosed by a rim assembly of the wheel assembly.

Dence shows a wheel assembly having a rim assembly 26, which encloses three planetary gear trains (44, 46, 48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the wheel assembly of Fisher to have a rim assembly enclosing the three planetary gear trains in view of Dence in order to provide the wheel construction which is compact and rugged (col. 4, lines 8-10).

Regarding claim 9 and 18, Fisher does not specify a speed ratio between the input and the output is at least 49:1.

Dence shows a wheel assembly having a speed ratio between the input 18 and the output 30 is at least 49:1 (col. 3, lines 71-72).

It would have been an obvious matter of design choice to make the drive assembly of Fisher to have a speed ratio between the input and the output be at least 49:1 in view of Dence, since such a modification would have involved a mere change in the size of gear components. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Regarding claim 13, Fisher shows the input including an engine, not an electric drive motor.

Dence shows the input 18 including an electric drive motor 12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the engine of Fisher by the motor of Dence in order to reduce noise and pollution.

***Allowable Subject Matter***

9. Claims 7 and 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Cited Prior Art***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Roger'448, Granryd'702, Sherman'074, Takao et al.'758, Furusawa'343, and Wilhelm et al.'475 which each shows a transmission includes a plurality of planetary gear trains.

***Communication***

11. Submission of your response by facsimile transmission is encouraged. The fax phone numbers for the organization where this application or proceeding is assigned are **(571) 273-8300**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see M.P.E.P. 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check. Responses submitted by facsimile transmission should include a Certificate of Transmission (M.P.E.P.. 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to  
the Patent and Trademark Office on \_\_\_\_\_  
(Date)  
Typed or printed name of person signing this certificate:  
\_\_\_\_\_  
\_\_\_\_\_

Art Unit: 3681

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and M.P.E.P.. 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ha D. Ho whose telephone number is 571-272-7091. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HDH  
(571) 272-7091  
September 22, 2005

*Ha Ho*  
**HA HO**  
**PRIMARY EXAMINER**  
Art Unit 3681      9/22/05